

C L A I M S

1. A system for inspecting electrical circuits comprising:
a boundary identifier operative to generate a representation of boundaries of elements in an image of an electrical circuit which is under inspection; and
a defect identifier operative to receive said representation of boundaries of elements and to analyze at least some locations of at least some boundaries in said representation of boundaries of elements to identify defects in said electrical circuit.
2. A system according to claim 1, and wherein said boundary identifier is operative in hardware.
3. A system according to claim 1, and wherein said defect identifier is operative in software.
4. A system according to claim 2, and wherein said defect identifier is operative in software.
5. A system according to claim 1, and wherein said defect identifier is operative to compare an actual location of at least one boundary from among said boundaries in said image under inspection, to a location of a corresponding boundary in at least one reference image.
6. A system according to claim 1, wherein said boundaries comprise contours.
7. A system according to claim 1, and wherein said system further includes a putative defect detector operative to identify at least some putative defects.
8. A system according to claim 7, and wherein said defect identifier is operative to analyze, from among said at least some boundaries, those boundaries that are associated with said putative defects.
9. A system according to claim 1, and wherein said system further includes a region of interest identifier operative to identify a portion of said image of an electrical circuit as being a region of interest.
10. A system according to claim 9, and wherein said defect identifier is operative to analyze, from among at least some boundaries, only those boundaries that are in said region of interest.
11. A system according to claim 8, and wherein said system further includes

a region of interest identifier operative to identify a portion of said image of an electrical circuit as being a region of interest, and said defect identifier is operative to analyze at least one characteristic of said at least some boundaries that are in said region of interest.

12. A method for inspecting electrical circuits comprising:
 - generating a representation of boundaries of elements in an image of an electrical circuit; and
 - analyzing at least one of said boundaries in said representation of boundaries of elements to identify defects in said electrical circuit.
13. A method according to claim 12, and wherein said generating is performed in hardware.
14. A method according to claim 12, and wherein said analyzing is performed in software.
15. A method according to claim 13, and wherein said analyzing is performed in software.
16. A method according to claim 12, and wherein said analyzing comprises analyzing at least one characteristic of a location of at least some of said boundaries.
17. A method according to claim 16, and wherein said analyzing a location of at least some of said boundaries comprises comparing at least one characteristic of a location of a selected boundary to at least one characteristic of a location of a corresponding boundary in a reference.
18. A method according to claim 12, and further including identifying a portion of said image of an electrical circuit as being a region of interest.
19. A system according to claim 1, wherein a threshold vicinity is defined around at least one boundary in said at least one reference image and wherein said defect identifier is operative to determine whether a corresponding boundary in the image under inspection falls within the threshold vicinity and, if not, to declare a putative defect associated with said boundary.
20. A system according to claim 19, wherein said threshold vicinity comprises an envelope around the at least one boundary in the at least one reference image.

21. A method of manufacturing an electrical circuit comprising:
acquiring an image of at least a portion of an electrical circuit and
inspecting said image for defects in said electrical circuit, including:
generating a representation of boundaries of elements in the image;
and
analyzing at least one of said boundaries in said representation of
boundaries of elements to identify defects in said electrical circuit portion.

22. A method according to claim 21, and wherein said generating is
performed in hardware.

23. A method according to claim 21, and wherein said analyzing is performed
in software.

24. A method according to claim 22, and wherein said analyzing is performed
in software.

25. A method according to claim 21, and wherein said analyzing comprises
analyzing at least one characteristic of a location of at least some of said boundaries.

26. A method according to claim 25, and wherein said analyzing a location of
at least some of said boundaries comprises comparing at least one characteristic of a
location of a selected boundary to at least one characteristic of a location of a
corresponding boundary in a reference.

27. A method according to claim 21, and further including identifying a
portion of said image of an electrical circuit as being a region of interest.